Monitoring Siloxanes

GC-IMS

VS

FTIR

GC-IMS combines the selectivity of a Gas Chromatograph (GC) with the extraordinary sensitivity of an Ion Mobility Spectrometer (IMS) for enhanced two-stage matrix separation of compounds. The GC-IMS identifies gases by their elution through the GC, and their flight time through the IMS.

COMPARISON

The Fourier Transform Infrared (FTIR) spectrometer incorporates an interferometer that uses a system of movable mirrors, including plane, spherical, parabolic and ellipsoidal mirrors, to cycle infrared light and is used to identify samples by producing an optical signal with all the IR frequencies encoded into it.

Durability

Secure, protected enclosure built to sustain tough environmental conditions and vibrations

Complex mirror alignment can be susceptible to vibration and temperature variation

- Not well suited for harsh commercial and industrial environments

Performance

Two-fold matrix separation minimizes interferences

- Well suited for complex, varying gas matrices
- Precise measurements by siloxane species

Spectra of hydrocarbons and siloxanes occupy the same frequencies

- Potential for interference, especially in complex gas matrices

Operation

Easy to operate

Can require excessive amounts of training with additional needs for regular maintenance

Costs

Relatively inexpensive

- Purchase and operation

Relatively expensive

- Purchase and operation